

**REMARKS**

Claims 8, 9, 11, 15, 16 and 18 were rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 6,544,361 B1 to Diz et al. (hereinafter “Diz”).

Claims 8 and 15 have been amended.

Reconsideration of the application based on the foregoing amendments and the following remarks is respectfully requested.

**35 U.S.C. 103(a) Rejections**

Claims 8, 9, 11, 12, 15, 16, 18 and 19 were rejected under 35 U.S.C. §103(a) as unpatentable over Diz.

Diz discloses “a method for making flat, thin elements which consist of: producing a zirconium alloy blank also containing, besides the inevitable impurities, 0.8 to 1.3% of niobium, 100 to 1800 ppm of oxygen, and 10 to 35 ppm of sulfur; carrying out a  $\beta$  hardening and hot rolling to obtain a blank and performing in it at least three cold rolling passes with intermediate annealing heat treatments.” (See Abstract). The hot-rolling process is typically carried out at a temperature between 770°C and 790°C. (Col. 3, lines 49 to 51).

Claims 8 and 15 recite in part “a final of the hot-rolling passes being carried out between 900 and 1030°C and not being followed by any quenching operation” and “performing at least one cold-rolling/annealing cycle on the flat product wherein the annealing cycle does not occur above 800°C to produce a flat product having a Kearns factor FT of between 0.30 to 0.70.”

Diz fails to teach or show the limitation of “a final of the hot-rolling passes being carried out between 900 and 1030°C” as required in claims 8 and 15. The Office Action admits the final hot rolling pass is carried out at 770-790°C. This is well below “between 900 and 1030°C,” as claimed. The Office Action asserts on page 4 that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the final hot rolling temperature of Diz in order to achieve the desired microstructures and sizes required.” However, there is no reason or motivation to modify the teachings of Diz, and even if there were a reason, there is no reason one of skill in the art would modify the final

hot rolling temperature over other process steps. The final hot rolling process as claimed is conducted at a much higher, and thus different, temperature than Diz, which produces a different product texture that provides advantageous benefits not present in the products produced by the Diz method.

Furthermore, Diz fails to teach or show “a flat product having a Kearns factor FT of between 0.30 to 0.70,” as required by claims 8 and 15. The Office Action cites Diz as having a Kearns factor of between 0.09 and 0.68, however this range cited in Diz et al. is not specific to the FT Kearns factor claimed in the present invention but includes different directional Kearns factors FN and FL. The FN and FL Kearns factors, 0.68 and 0.09 respectively in Diz, are irrelevant to the claim limitations of the present invention. The Office Action asserts on page 4 that “the claimed and Diz’s flat zirconium alloy products are identical or substantially identical in composition and are produced by identical or substantially identical processes as discussed above, therefore a prima facie case of obviousness exists. The same Kearns factor FT as claimed in the instant claims 8 and 15 would be expected in the flat zirconium alloy product of Diz.” As discussed above, substantially identical processes are not performed in Diz and the present invention. Diz fails to teach a final hot rolling between 900 and 1030°C. In addition, the processes of Diz cannot inherently lead to FT factors identical to those of the present invention. It is clear by the FT Kearns factor disclosed in Diz is .23. This is well below the .30 to .70 range claimed. Claims 8 and 15 have been amended to recite that the steps presented in the claims are the only steps undergone in the present invention. Diz fails to teach the FT Kearns factor of .30 to .70 as claimed. Amending Diz to meet the FT Kearns factor of the claimed invention would require additional and/or different steps which are not part of the current invention. Furthermore, there is no reason or motivation in Diz to obtain such a FT kearns factor as claimed. Since Diz does not disclose or teach these key limitations, withdrawal of the rejection of independent claims 8 and 15 under 35 U.S.C. §103(a) and dependent claims 9, 11, 12, 16, 18 and 19 is respectfully requested.

**CONCLUSION**

It is respectfully submitted that the application is in condition for allowance and applicants respectfully request such action.

If any additional fees are deemed to be due at this time, the Assistant Commissioner is authorized to charge payment of the same to Deposit Account No. 50-0552.

Respectfully submitted,

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By: \_\_\_\_\_



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